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Body for motor-vehicle.

Body for a motor-vehicle, the rear end of which includes a pair of side panels (1), a pair of longitudinal members (2) each of which is close to a pair of such side panels (1) and is connected to the latter, a pair of crossmembers (3, 4) substantially orthogonal to the longitudinal members (2) one of which is arranged at the rear end and the other is arranged in the central portion of the body and a plastic panel (5) of substantially rectangular shape so arranged as to rest on said longitudinal members (2) and said crossmembers (3, 4) to determine the rear end of the body platform, such a panel (5) being provided with at least a first recess (6) suited to originate a housing for a spare wheel and a further recess (7) suited to originate a housing for a fuel tank.

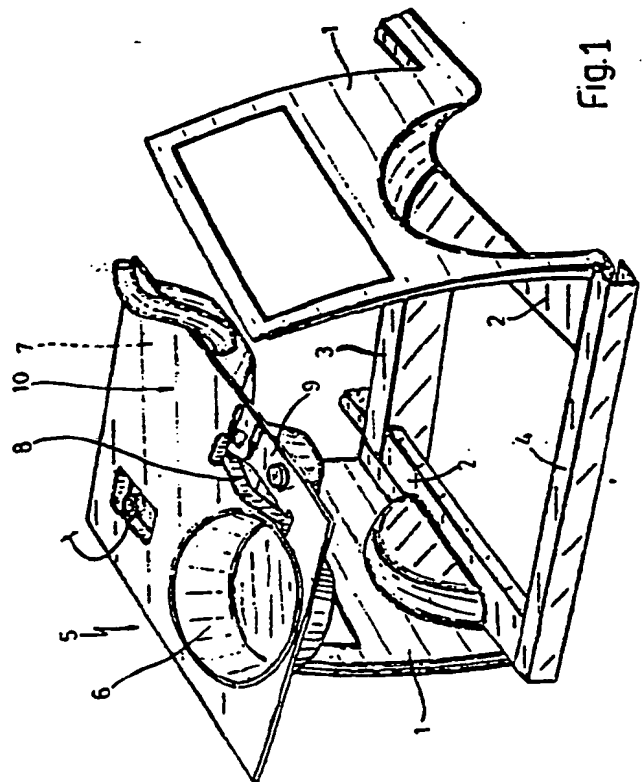


Fig.1

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"BODY FOR MOTOR-VEHICLE"

The present innovation is related to a body for motor-vehicle, which covers few very simple-shape parts which can be connected between each other through very fast assembly operations, and which can thus be produced at low cost.

In particular, the innovation finding is related to the structure of a body rear end which, as it well known, usually is very complicated and includes a variety of longitudinal members and crossmembers properly connected between each other, at least a pair of side panels connected to the previous ones, and a platform consisting of more different parts, properly connected between each other and with the previous ones.

Because of both the high number of parts making up the rear portion of a body and the complexity of assembly operations necessary to connect between each other said parts, the cost of a conventional body of the type shown proves to be rather high.

The scope of the present innovation is to accomplish a body, and in particular the rear end of the body itself, which includes a few simple-shape parts, suited to be quickly connected between each other and which can therefore be produced at low cost.

Such a scope is fulfilled through a motor-vehicle body, characterized by the fact that the rear end of the body itself includes a pair of side panels, a pair of longitudinal members each of which is adjacent to one of said side panels and is connected to the side panel itself, a pair of crossmembers substantially orthogonal to said longitudinal members of which one is arranged in the rear end and the other is arranged in the central portion of the body, and a plastic panel with a substantially rectangular shape so arranged as to rest on both said longitudinal members and said crossmembers to determine the rear end of the body platform, said panel being at least provided with a recess suited to accommodate a spare wheel and a further recess suited to accommodate a fuel tank.

For a better understanding of the finding referred to in the present innovation, a more detailed description of it will be given as a way of example with reference to the attached drawings, where:

-Fig. 1 represents a pictorial view of a body rear end built according to the present innovation;

-Fig. 2 represents a plan view of the portion shown in Fig. 1;

-Fig. 3 represents a schematic section of the body referred to in Fig. 2 carried out by a III-III intersecting plane;

-Fig. 4 represents a cross section of the body portion referred to in Fig. 3 carried out by a IV-IV intersecting plane;

-Fig. 5 represents a plan view of an additional accomplishment form according to the present innovation;

-Fig. 6 is a schematic section of the Fig. 5 accomplishment carried out by a VI-VI intersecting plane;

-Fig. 7 is a section of the body portion referred to in Fig. 6 carried out by a VII-VII intersecting plane;

-Fig. 8 represents a plan view of a third accomplishment form according to the present innovation;

-Fig. 9 is a schematic section of the body referred to in Fig. 8 carried out by a IX-IX intersecting plane;

-Fig. 10 is a section of the body portion referred to in Fig. 9 carried out by an X-X intersecting plane;

-Fig. 11 is a schematic developed section of the body referred to in Fig. 9

With reference to Fig. 1, the rear portion of the model body includes two side panels 1, two longitudinal members 2, each of which is close to a side panel and is connected to the latter, a pair of crossmembers 3 and 4 arranged in the body central portion and rear portion, respectively. The body also includes a plastic panel 5 so arranged as to rest on the longitudinal members and on crossmembers 2, 3 and 4 to determine the rear end of the platform; the above panel is at least provided with a pair of recesses 6 and 7 suited to originate two housings, one of them to accommodate a spare wheel and the other to accommodate a fuel tank; in a proper way, such further housing can in itself be the fuel tank.

The panel can also include further recesses 8 and 9, the former suited to originate the housings for the vehicle's tool kit and the latter to originate a liquid reservoir for the glass washing device.

The panel 5 and its cover 10 can be obtained through a blowing technology from a single plastic piece by using, for instance, the usual forming technologies through blowing.

In an additional form of accomplishment shown in Figs. 5 through 7, the panel 5 presents a rear edge 11, substantially bent into box-like shape and so arranged as to rest on the rear crossmember to originate the rear bumper of the motor-vehicle.

In a further form of accomplishment according to Figures from 8 through 11, the panel 5 can include a seat 12 obtained from a single piece with the panel 5 can include a seat 12 obtained from a

single piece with the panel itself; in this case, the seat will have a structure as to be obtained through the same process as the one through which the panel itself is obtained and is connected to the latter by a deformable bridge 13, directly obtained from the local forming of the panel 5.

Thus after the forming operation, the seat is in the configuration shown on Fig. 11 and can be rotated around the bridge 13 in order to take it back to its employment position, as shown in Fig. 9.

Of course, the rear portion of the body accomplished as indicated has a very simple structure and can be built at low cost though resulting in a sturdy and reliable structure. In fact, the four-side structure is emphasized through the assembly of the longitudinal members 2 and crossmembers 3 and 4 which are of high strength and represents an effective support for the panel 5, which is placed on them and forms the vehicle's rear platform, already provided with the seats where the fuel tank, the spare wheel, the glass washing device and the vehicle's tool kit are to be placed. Finally, the bumper can be accomplished in a very simple way by using partly the material of panel 5 (rear edge bent 11), and partly the body (rear crossmember 4), from the combination of such two structural elements there comes out a bumper which shows high deformability, due to the box-type rear edge 11, and a high strength due to the rear crossmember 4.

The parts making up the rear portion of the body, can be joined between each other in a simple and quick way by accomplishing, first the structure with a mechanical strength function, made by the longitudinal members 2, the crossmembers 3 and 4 and the side panels 1, such parts being connected between each other through regular welding operations; aside, a unit can be prepared which consists of panel 5, and those parts and devices that shall be supported by the panel itself (fuel tank, glass washing device, covering sheet, and the like). Such a unit can subsequently rest on the longitudinal members and crossmembers and locked in a whatever suitable way.

Obviously, changes and variations can be made to the shape and arrangement of the various parts referred to in the finding, without however coming out of the innovation domain.

Claims

1) Body for a motor-vehicle, characterized by the fact that the rear end of the body itself includes a pair of side panels, a pair of longitudinal members each of which is close to a pair of such side panels and is connected to the latter, a pair of

crossmembers substantially orthogonal to said longitudinal members one of which is arranged at the rear end and the other is arranged in the central portion of the body and a plastic panel of substantially rectangular shape so arranged as to rest on said longitudinal members and said crossmembers to determine the rear end of the body platform, such a panel being provided with at least a first recess suited to originate a housing for a spare wheel and a further recess suited to originate a housing for a fuel tank.

2) Body according to the claim 1 characterized by the fact that such a recess originates a fuel tank proper.

3) Body according to the claim 1 characterized by the fact that such a panel shows a rear edge bent into a box-like shape and so arranged as to rest on said crossmember to originate the vehicle's rear bumper.

4) Body according to the claim 1, characterized by the fact that said panel is obtained from plastic material.

5) Body according to the claim 1 characterized by the fact that on said panel further recesses are obtained for the vehicle's tool kit and for the reservoir of the glass washer liquid.

6) Body according to one of the above claims, characterized by the fact that such a panel includes a seat obtained from a single piece with the panel itself, said seat being connected to said panel by a deformable bridge, directly obtained from the panel, so as to be able to tilt over such a seat rotating it around said bridge and also to bring it over said panel into the employment position.

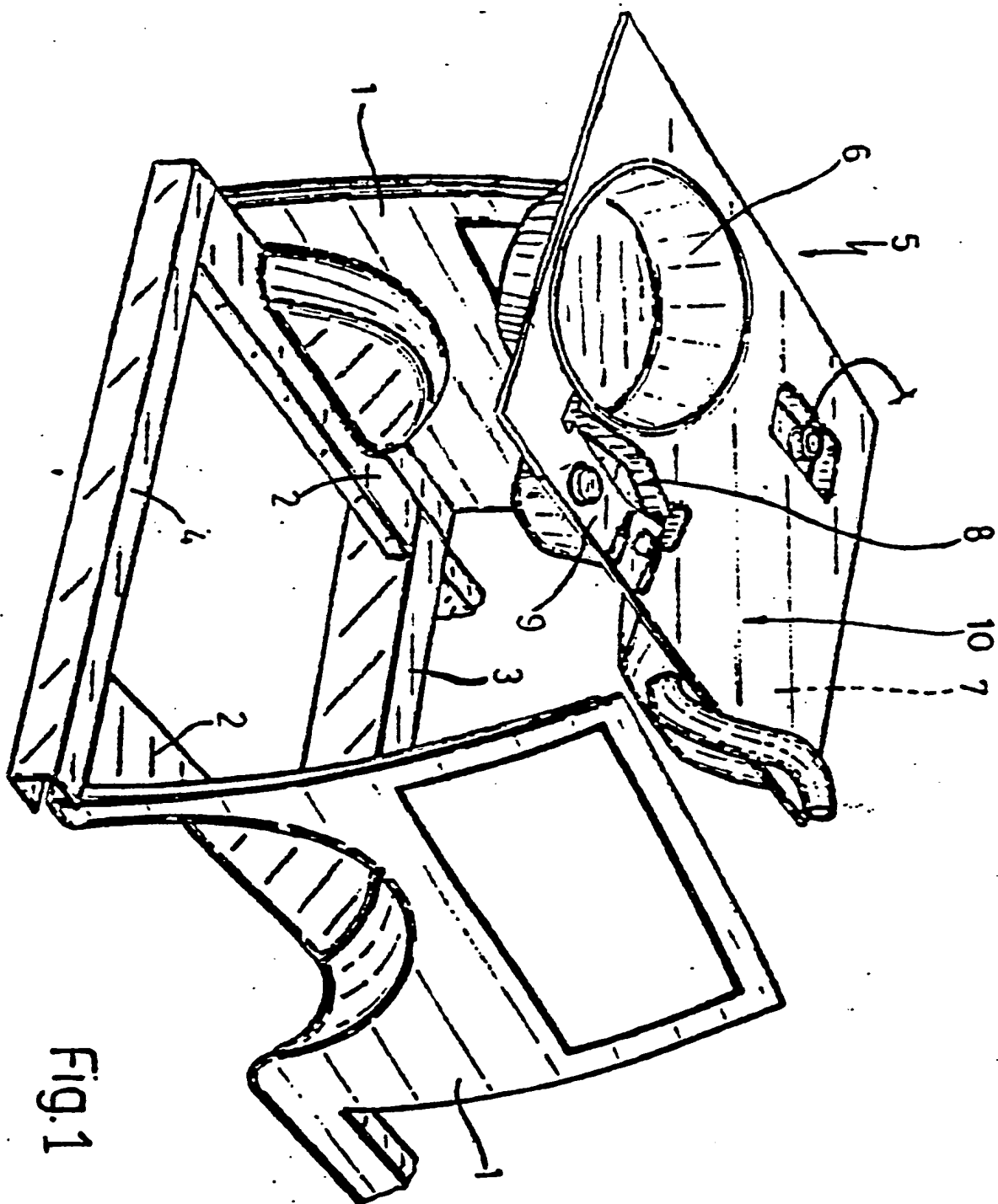


Fig. 1

Fig. 3

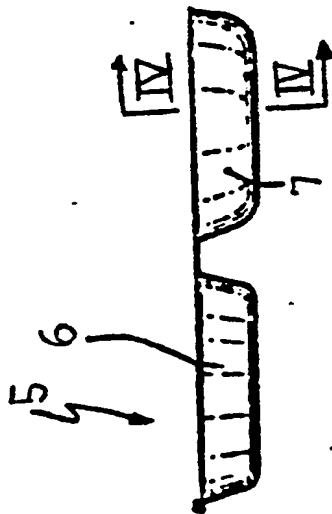


Fig. 2

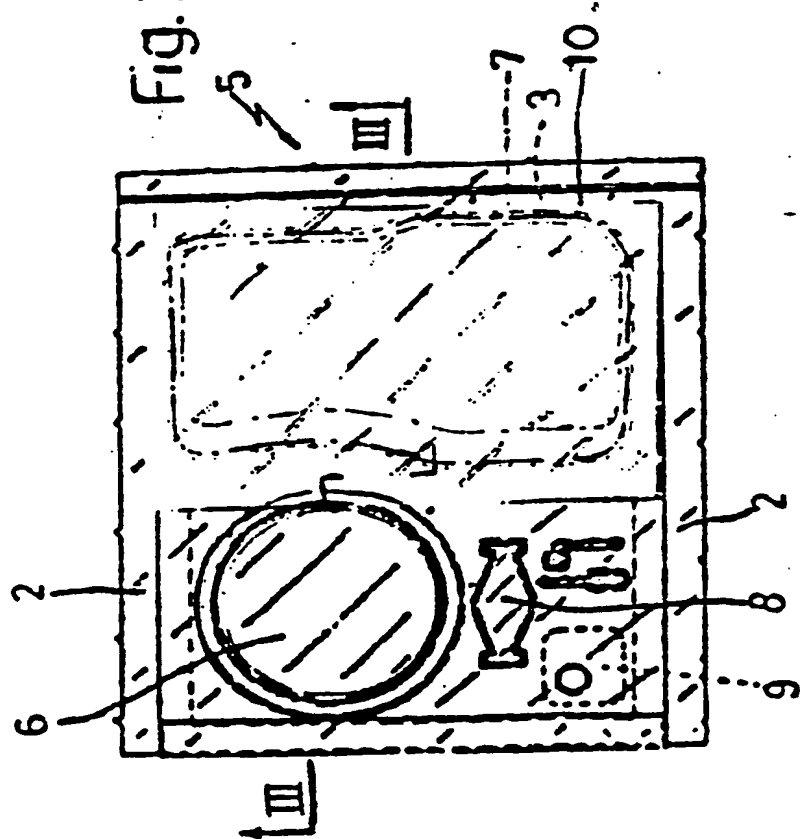


Fig. 4

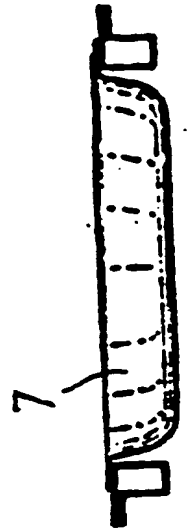


Fig. 6

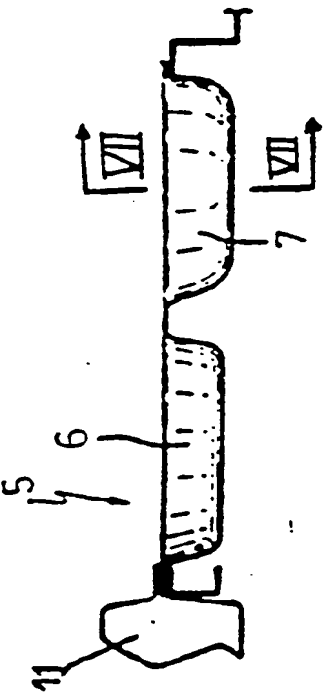


Fig. 5

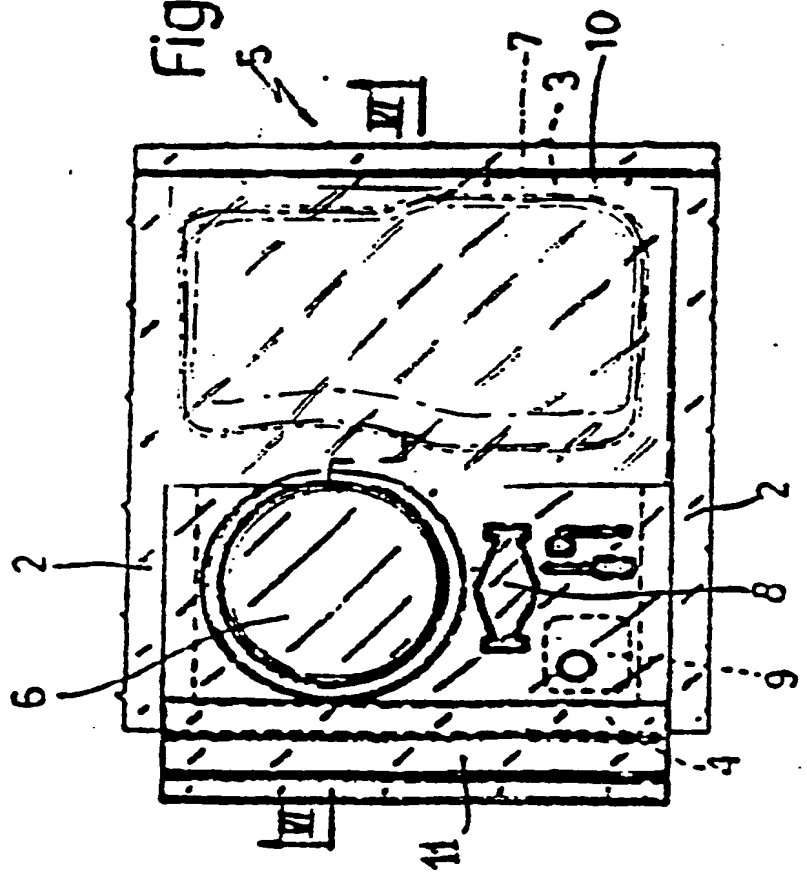
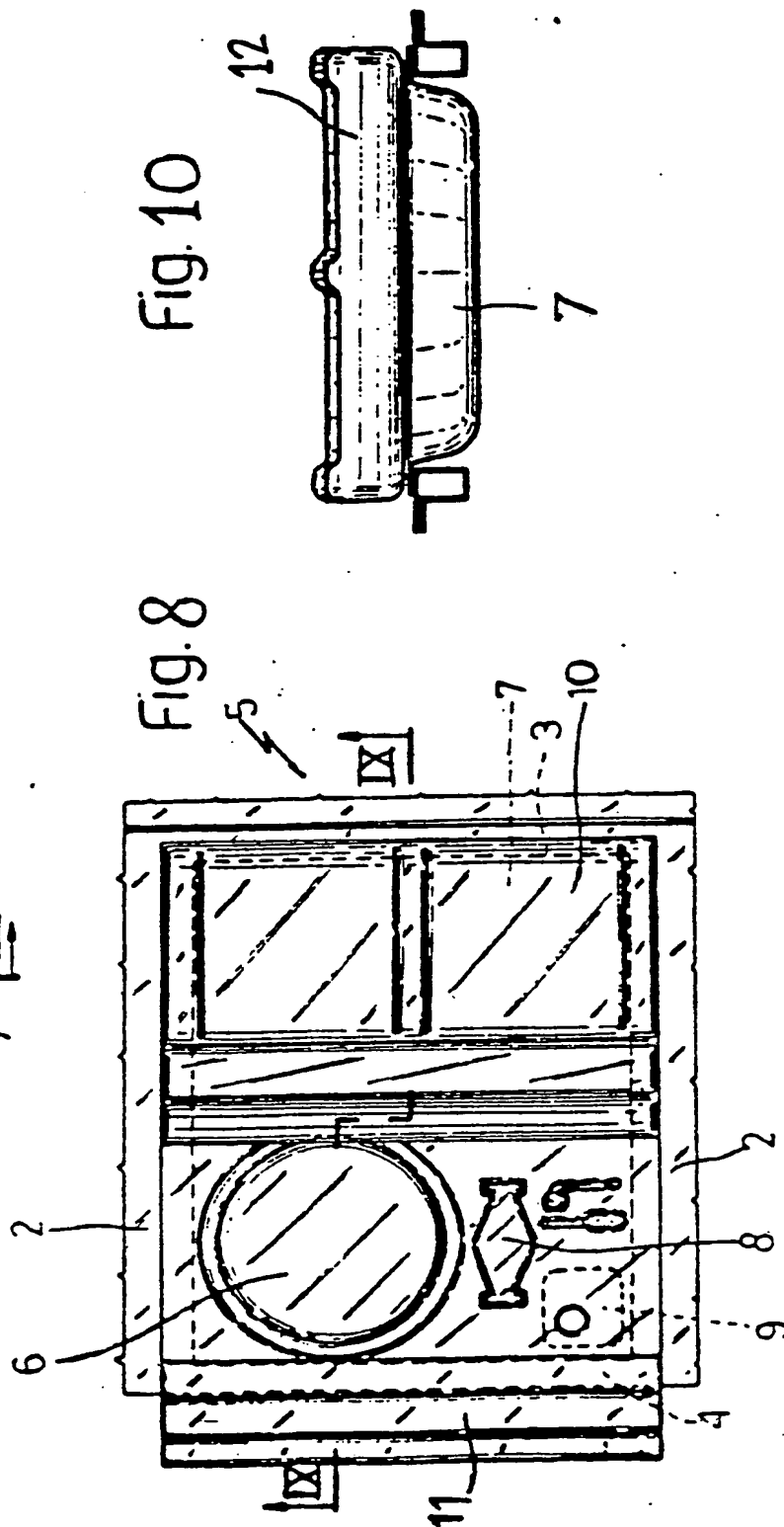
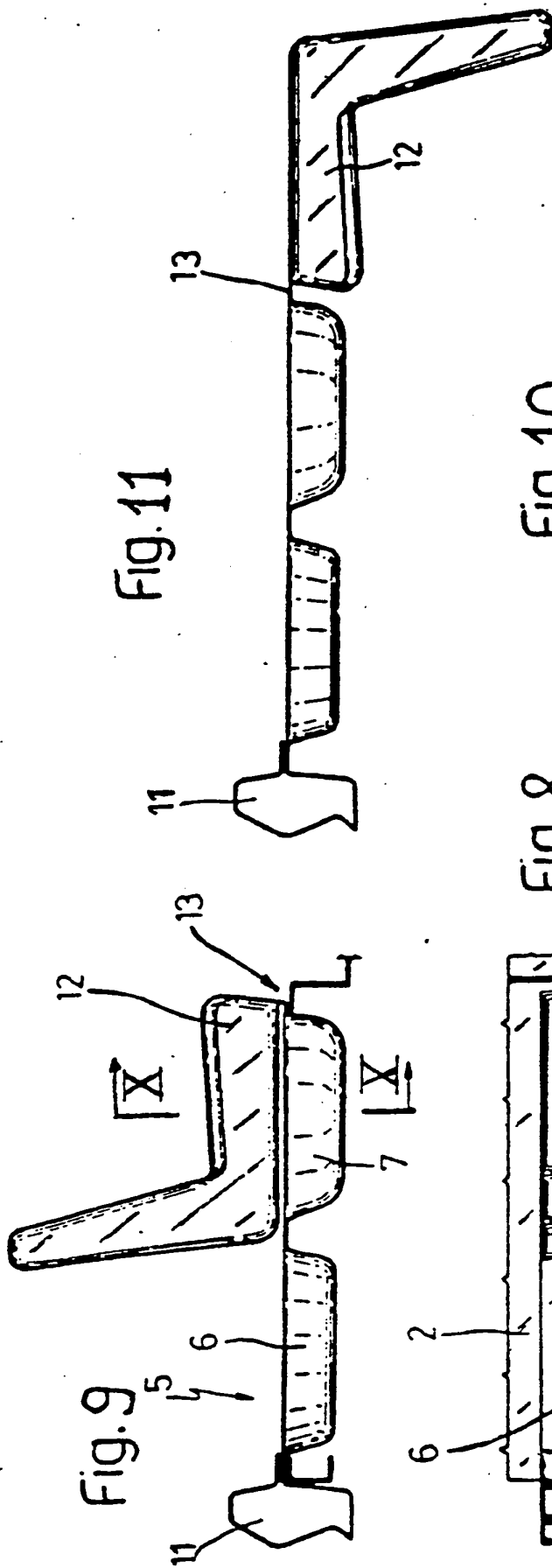


Fig. 7







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EUROPEAN SEARCH REPORT

Application Number

EP 87 11 7829

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	DE-B-2 827 855 (OPEL) * figures 1-4 * ---	1	B 62 D 43/10 B 62 D 25/08
A	US-A-4 093 088 (HILDEBRANDT et al.) * column 2, lines 10-12; figures 1, 2 * ---	1	
A	DE-B-2 840 689 (OPEL) * column 5, lines 12-18; figures 1-4 * ---	1	
A	DE-A-3 339 415 (AUDI) * claims 1, 2; figures 1, 2 * ---	1,2,4,5	
A	DE-A-3 531 543 (VOLKSWAGEN) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			B 62 D 43/00 B 62 D 25/00
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 21-02-1988	Examiner LUDWIG H J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			

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